

**I CLAIM AS MY INVENTION:**

1. A method for localizing at least one focal lesion in a biological tissue section, said lesion exhibiting an electrical property different from the tissue section, and the electrical property in the tissue section being essentially constant, comprising the steps:

applying a sequence of electrical excitation signals having different frequency to the tissue section;

measuring electrical response signals at a plurality of measuring locations on a surface of the tissue section that occur due to the excitation signals;

determining electrical admittance data from the response signals dependent on the location on the surface;

determining a maximum of the admittance data and of a position on the surface corresponding to said maximum; and

determining a depth position of the lesion beneath the position of the maximum dependent on the position of the maximum.

2. A method as claimed in claim 1, comprising determining the depth position by using orthogonal leadfields.